REMARKS

Claims 1, 2, 4-9, 11-15, 17-18 were pending. Claims 1, 8 and 13 have been amended for clarification purposes. Claims 29-34 have been added. Accordingly, claims 1, 2, 4-9, 11-15, 17-18, and 29-31 remain pending subsequent entry of the present amendment. Support for the amendments to each of claim 1, 8 and 13, and for new claims 29-34, may be found in at least page 25, lines 13-25 of the Description, and Figs. 7-8 with associated text.

In the present Office Action, claims 1, 2, 6-9, 13, 14, 17 and 18 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over U.S. Patent No. 6,813,268 (hereinafter "Kalkunte"), in view of newly cited U.S. Patent No. 5,675,790 (hereinafter "Walls"). In addition, claims 4, 5, 11, 12, and 15 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Kalkunte-Walls, in view of U.S. Patent No. 6,625,808 (hereinafter "Walls"). Applicant submits each of the pending claims recite features which are neither disclosed nor suggested by the cited art, either singly or in combination. Accordingly, Applicant requests reconsideration in view of the following discussion.

As noted above, Applicant has amended the independent claims to clarify the nature of the presently claimed invention. For example, claim 1 has been amended to recite that "in determining whether said packets can be stored in said LPM, the first storage system is configured to consider unallocated portions of the local packet memory in increments of one or more fixed sizes; and . . . wherein said system is configured to adjust said one or more fixed sizes to include more or fewer fixed size increments which may be considered by the first storage system when the first storage system considers whether said packets can be stored in the LPM." By way of explanation, Figs. 7 and 8 depict various examples of how the method and mechanism may consider multiple fixed size units during a determination. Applicant submits at least these features are neither disclosed nor suggested by the cited art.

On page 5 of the present Office Action, the examiner concedes that Kalkunte nowhere discloses resizing of memory units. Walls is then cited as describing a mechanism which is stated to disclose resizing and the mechanism is then combined with Kalkunte. It is first noted that Kalkunte is not generally directed to determining whether packets *can* be stored in a memory such as the recited LPM. Rather, Kalkunte is directed to a method and mechanism for balancing and maintaining a transmission line rate for each of a plurality of egress ports. For example, Kalkunte discloses:

> "Thus, this distributed hierarchical shared memory architecture defines a self-balancing mechanism. That is, for egress ports having few data packets in their egress queues, the incoming data packets which are to be switched to these egress ports are sent to the internal memory, whereas for egress ports having many data packets in their egress queues, the incoming data packets which are to be switched to these egress ports are stored in the external memory.
>
> Preferably, any data packets which are stored in external memory are subsequently re-routed back to the internal memory before being provided to an egress port for transmission from the network switch.
>
> Thus, according to the present invention, the transmission line rate is maintained on each egress port even though the architecture utilizes slower speed DRAMs for at least a portion of packet storage. Preferably, this distributed hierarchical shared memory architecture uses SRAM as a packet memory cache or internal memory and uses standard DRAMs or SDRAMs as an external memory, so as to provide a desired cost-benefit ratio." (Kalkunte, col. 34, lines 30-49).

As can be seen from the above, Kalkunte does not disclose a decision as to whether or not a packet is stored in a local versus external memory is based on whether the local memory can store the packet. Rather, the determination is based upon other considerations:

> "[I]n order to maximize throughput, to prevent port starvation, and to prevent port underrun. For every ingress, there is a low watermark and a high watermark; if cell count is below the low watermark, the packet is admitted to the CBP, thereby preventing port starvation by giving the port an appropriate share of CBP space." (Kalkunte, col. 15, lines 6-11).

As may be appreciated, these concerns and this disclosure of Kalkunte is not equivalent to the above recited features. As noted above, and throughout Kalkunte, a quite different approach is described which is based upon setting high and low watermarks, comparing such watermarks to cell budgets, and so on (e.g., see Kalkunte, Fig. 12 and related discussion).

In addition to the above, neither Kalkunte nor Walls disclose or suggest considering unallocated portions of the local packet memory which correspond to each of one or more fixed size increments and adjusting said one or more fixed sizes to include more or fewer fixed size increments which may be considered by the first storage system when the first storage system considers whether said packets can be stored in the LPM. As recited, consideration of whether or not a packet is storable in the LPM includes considering unallocated portions of the LPM in increments which have fixed sizes. Further, the fixed sizes which may be considered during such a determination may be adjusted to include more or fewer fixed sizes. Accordingly, the system may concurrently consider unallocated portions of memory in multiple fixed size increments. Neither Kalkunte nor Walls discloses consideration of the "fixed sizes" as recited. Such features are wholly absent from Kalkunte. Further, in contrast to the presently claimed invention, Walls is generally directed to a mechanism for reducing search time of a dynamic memory free list. To this end, Walls discloses removing "small" fragments of unallocated memory from a dynamic memory allocate free list by allocating those portions. In this manner, fragments which are believed will be too small are not included in the search and the search latency may be reduced. Subsequently, when a sufficient number of contiguous small fragments have been gathered, they may be agglomerated and returned to the free list as a single larger portion of unallocated memory (e.g., see Walls, cols. 6-7). However, nowhere does Walls disclose a method or mechanism configured to operate according to the consideration and fixed size increments as recited. Accordingly, Applicant submits claim 1 is patentably distinguishable from the cited art, both singly and in combination. As each of claims 8 and 13 include features similar to that of claim 1, each of these claims are believed patentable as well.

Still further, the dependent claims recite additional features neither disclosed nor suggested by the cited art. For example, new claims 29-34 recite features directed to adjusting the fixed sizes based in part on packet size, and features directed to consideration of multiple fixed sizes in parallel (as described in Figs. 7-9). These features are wholly absent from the cited art.

Information Disclosure Statements

Applicant filed a number of information disclosure statements, both prior to and subsequent to the issuance of the present Office Action, not signed and returned indicating they have been considered. Applicant requests a following action include signed copies of the information disclosure statements submitted on the following dates: (1) September 16, 2005; (2) October 31, 2005; (3) December 12, 2005; and (4) April 3, 2006 (submitted after the present Office Action).

In view of the above discussion, Applicant believes the application to be in condition for allowance.

CONCLUSION

Applicant submits the application is in condition for allowance, and an early notice to that effect is requested.

Respectfully submitted,

/James W. Huffman/
James W. Huffman
Reg. No. 35,549
ATTORNEY FOR APPLICANT(S)

Date: 05/15/06